

WHAT IS CLAIMED IS:

1. A semiconductor device comprising a substrate, a first dielectric film overlying said substrate, a pair of fuse terminals embedded in a surface portion of said first dielectric film, a second dielectric film formed on said first dielectric film and said fuse terminals, said second dielectric film having a pair of openings each exposing one of said fuse terminals, a fuse element formed on said second dielectric film and connected to said pair of fuse terminals through said openings.
2. The semiconductor device as defined in claim 1, wherein said fuse element is made of a refractive metal.
3. The semiconductor device as defined in claim 1, further comprising a plurality of top interconnect lines formed as a common layer with said fuse terminals.
4. The semiconductor device as defined in claim 1, wherein said fuse element is made of TiN film, stacked films including a TiN film and a Ti film or a TiW film.
5. The semiconductor device as defined in claim 1, wherein said fuse terminals are made of Al, Al alloy, Cu

or Cu alloy.

6. A semiconductor device comprising a substrate, a first dielectric film overlying said substrate, a pair of fuse terminals embedded in a surface portion of said first dielectric film, a fuse element formed on said first dielectric film and connected to said pair of fuse terminals.

7. The semiconductor device as defined in claim 6, further comprising a plurality of top interconnect lines each having a line body formed as a common layer with said fuse terminals and a protective film formed on said line body as a common layer with said fuse element.

8. The semiconductor device as defined in claim 6, further comprising a plurality of electrode pads each having a pad body formed as a common layer with said fuse terminals and a protective film formed on said pad body as a common layer with said fuse element.

9. The semiconductor device as defined in claim 7, further comprising a second dielectric film formed on said first dielectric film and having a plurality of openings each exposing one of said electrode pads.

10. The semiconductor device as defined in claim 9, wherein said fuse element is made of TiN film, stacked films including a TiN film and a Ti film or a TiW film.

11. The semiconductor device as defined in claim 9, wherein said fuse terminals are made of Al, Al alloy, Cu or Cu alloy.

12. A method for forming a semiconductor device comprising the steps of forming a first dielectric film overlying a substrate, embedding a plurality of interconnect lines and a pair of fuse terminals in a surface
5 portion of said first dielectric film, forming a second dielectric film on said first dielectric film, said interconnect lines and said fuse terminals, selectively etching said second dielectric film to form a pair of openings each exposing one of said fuse terminals,
10 forming a refractive metal film on said second dielectric film and said fuse terminals exposed by said opening, and patterning said refractive metal film to form a fuse element electrically connecting said fuse terminals together.

13. A method for forming a semiconductor device

comprising the steps of forming a first dielectric film overlying a substrate, embedding a plurality of interconnect lines and a pair of fuse terminals in a surface portion of said first dielectric film, forming a refractive metal film on said first dielectric film, said interconnect lines and said fuse terminals, and patterning said refractive metal film to form a fuse element electrically connecting said fuse terminals together and a plurality of protective films each formed on one of said interconnect lines.

14. The method as defined in claim 13, wherein said embedding step forms additionally a plurality of electrode pads, said refractive metal film forming step forms said refractive metal film on said electrode pads, and said patterning step forms a plurality of protective films each on one of said electrode pads.